

**IMPROVEMENT OF GRAFT ACCEPTANCE THROUGH
MANIPULATION OF THYMIC REGENERATION
ABSTRACT**

The present disclosure provides methods for inducing tolerance in a recipient to a
5 mismatched graft of an organ, tissue and/or cells. By reactivating the recipient's thymus and
providing hematopoietic stem cells from the donor, the previously "foreign" matter becomes
recognized as "self" in the recipient and is not rejected. The patient's T cell population is
depleted. In some embodiments, the hematopoietic stem cells are CD34+. The recipient's
10 thymus is reactivated by disruption of sex steroid mediated signaling to the thymus. In some
embodiments, this disruption is created by administration of LHRH agonists, LHRH antagonists,
anti-LHRH receptor antibodies, anti-LHRH vaccines or combinations thereof.